

### • Over 40KW Output Capability

The M50 Series modules utilize highly efficient thermal management of provide high surge capability, long lifetime and reliable performance. Available in eight standard circuits, all models come in an industry standard package, provide 2500Vrms from all terminals to the baseplate and are UL recognized (file no. E72445).

Manufactured in Crydom's ISO 9002 Certified facility for optimum product performance and reliability.

#### PART NUMBER IDENTIFICATION

**Series Type**  
M50 -Case style

**Current**  
50 - 50 Amps  
100 - 100 Amps

**Circuit Type**  
1 - 8  
(see schematic diagrams)

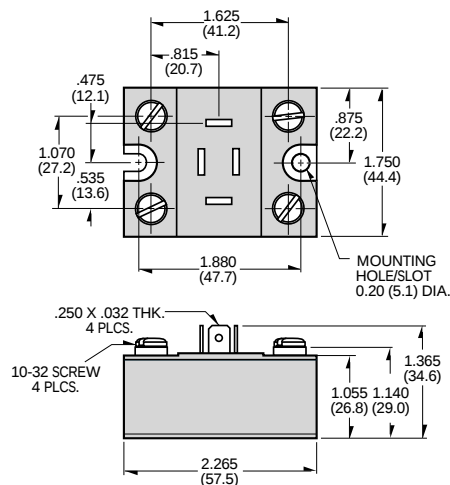
**AC Line Voltage**  
1 - 120 Vac  
2 - 240 Vac  
3 - 280 Vac  
4 - 380 Vac  
5 - 480 Vac

**Options**  
F - Free Wheeling Diode  
(Circuits 1 & 2 Only)  
V - External Suppressor  
(Circuits 1, 2, 3, 6 & 7 Only)

Example: M5050 12FV

#### MECHANICAL DIMENSIONS

All dimensions are in inches (millimeters)



#### ELECTRICAL SPECIFICATIONS

SYMBOL SPECIFICATION

#### RATINGS

M5050

M50100

|                 |                                                                           |                                                                                                                        |                     |
|-----------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|---------------------|
| $I_D$           | Maximum DC Output Current ( $T_c = 85^\circ\text{C}$ )                    | 50A                                                                                                                    | 100A                |
| $V_F$           | Maximum Voltage Drop @ Amps Peak                                          | 1.7V @ 50A                                                                                                             | 1.4V @ 100A         |
| $T_J$           | Operating Junction Temperature Range                                      | -40°C to +125°C                                                                                                        |                     |
| $di/dt$         | Critical Rate of Rise of On-State Current @ $T_J=125^\circ\text{C}$       | 100A/ $\mu\text{s}$                                                                                                    | 100A/ $\mu\text{s}$ |
| $dv/dt$         | Critical Rate of Rise of Off-State Voltage [V/ $\mu\text{s}$ ]            | 500V/ $\mu\text{s}$                                                                                                    | 500V/ $\mu\text{s}$ |
| $V_{RMS}$       | AC Line Input Voltage<br>(Repetitive Peak Reverse Voltage)                | 120 (400 $V_{RRM}$ )<br>240 (600 $V_{RRM}$ )<br>280 (800 $V_{RRM}$ )<br>380 (1000 $V_{RRM}$ )<br>480 (1200 $V_{RRM}$ ) |                     |
| $I_{TSM}$       | Maximum Non-Repetitive Surge Current<br>( $1/2$ Cycle, 60Hz)              | 600A                                                                                                                   | 1500A               |
| $I^2T$          | Maximum $I^2T$ for Fusing ( $t=8.3\text{ms}$ ) [ $\text{A}^2\text{sec}$ ] | 1500                                                                                                                   | 9350                |
| $I_{GT}$        | Maximum Required Gate Current to Trigger @ 25°C                           | 150mA                                                                                                                  | 150mA               |
| $V_{GT}$        | Maximum Required Gate Voltage to Trigger @ 25°C                           | 3.0V                                                                                                                   | 3.0V                |
| $P_{G(AV)}$     | Average Gate Power                                                        | 0.5W                                                                                                                   | 0.5W                |
| $V_{GM}$        | Maximum Peak Gate Voltage (Reverse)                                       | 5.0V                                                                                                                   | 5.0V                |
| $R_{\theta JC}$ | Maximum Thermal Resistance Junction to Ceramic Base per Chip              | 0.7°C/W                                                                                                                | 0.36°C/W            |
| $V_{ISOL}$      | Isolation Voltage                                                         | 2500 $V_{RMS}$                                                                                                         | 2500 $V_{RMS}$      |

#### MECHANICAL SPECIFICATIONS

Weight: (typical)

3.75 oz. ( 106g)

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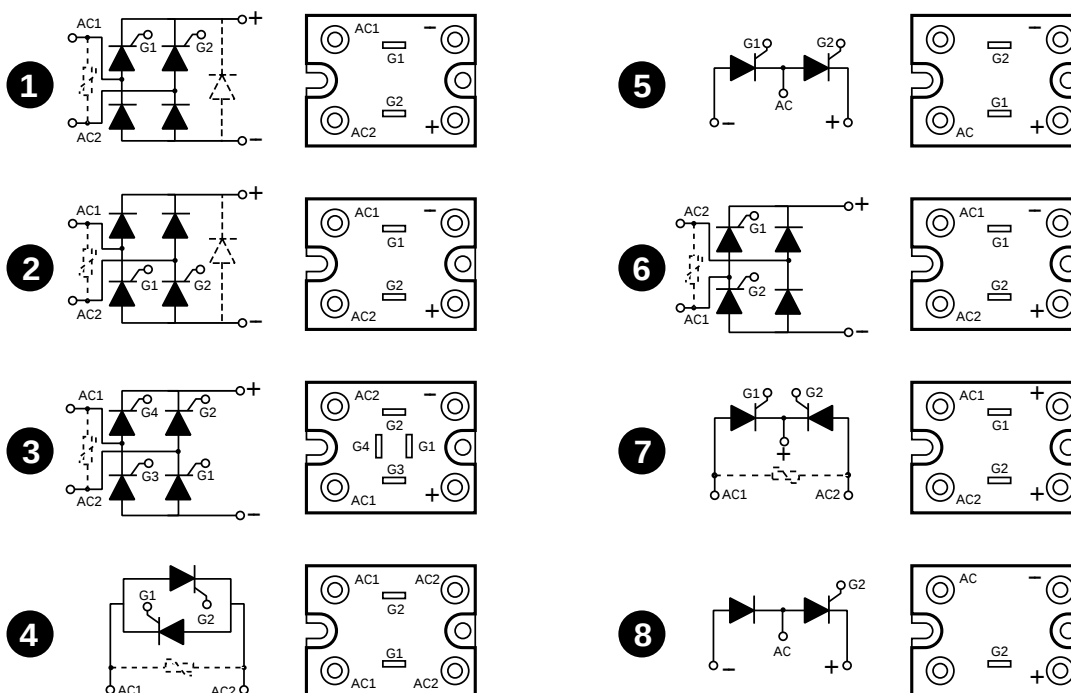
- Over 40KW Output Capability

### PART NUMBER IDENTIFICATION

| Series Type     | Current                        | Circuit Type                      | AC Line Voltage                                                         | Options                                                                                                       |
|-----------------|--------------------------------|-----------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| M50 -Case style | 50 - 50 Amps<br>100 - 100 Amps | 1 - 8<br>(see schematic diagrams) | 1 - 120 Vac<br>2 - 240 Vac<br>3 - 280 Vac<br>4 - 380 Vac<br>5 - 480 Vac | F - Free Wheeling Diode<br>(Circuits 1 & 2 Only)<br>V - External Suppressor<br>(Circuits 1, 2, 3, 6 & 7 Only) |

Example: M5050 12FV

### SERIES M50 CIRCUITS



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